

### **REMARKS**

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

### **EXAMINER INTERVIEW ACKNOWLEDGED AND STATEMENT OF SUBSTANCE**

This paper is (at least partially) responsive to the examiner interview conducted 30 July 2008, by and between (as indicated on the Interview Summary document) assigned Examiner Jessica Roberts, Applicant's foreign representative Takuya Shimizu and attorney Paul J. Skwierawski, in the present application. It is respectfully submitted that the statement(s) regarding the "Substance of Interview", and all other information, as set forth within the Interview Summary document is accurate and is herein adopted by Applicant. Further to the above, any foregoing amendments may include amendments discussed during, or resultant from, the examiner interview, and the following includes a reiteration of discussions/arguments had during the examiner interview.

### **PENDING CLAIMS**

Claims 23 was pending, under consideration and subjected to examination. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed

invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claim 23-26 will be pending for further consideration and examination in the application. It is respectfully submitted that the present amendment of the claims does not add new matter to the application.

### **REJECTION(S) UNDER 35 USC '103**

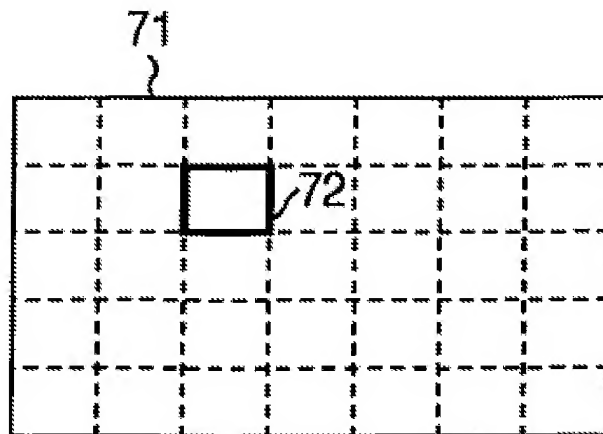
The 35 USC '103 rejection of claim 23 is respectfully traversed. However, such rejection has been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims. That is, insofar as any such rejection applies to Applicant's presently-clarified claims, Applicant respectfully submits the following.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, regarding any descriptions and rebuttal arguments concerning Applicant's invention and/or the applied prior art as included herein, yet found to be corrective over prior descriptions and rebuttal arguments, such corrective descriptions and rebuttal arguments should be considered to supersede prior descriptions and rebuttal arguments. Still further, all Office Action statements

regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

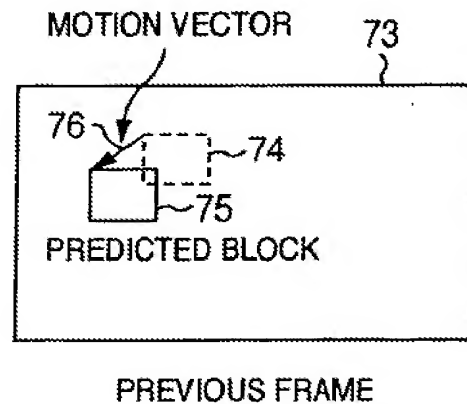
Applicant's disclosed and claimed invention concerns the decoding of images. One goal with decoding is to use least amount of image information as possible, yet still maintain reasonable imaging results.

As background, Applicant's invention is applicable to "blocks" (or "macroblocks"). That is, a larger frame **71** (see sketch) may be divided up into a plurality of blocks **72**.

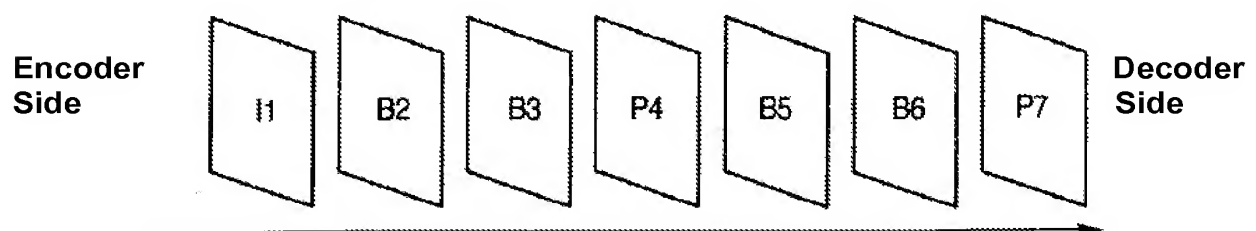


CURRENT FRAME

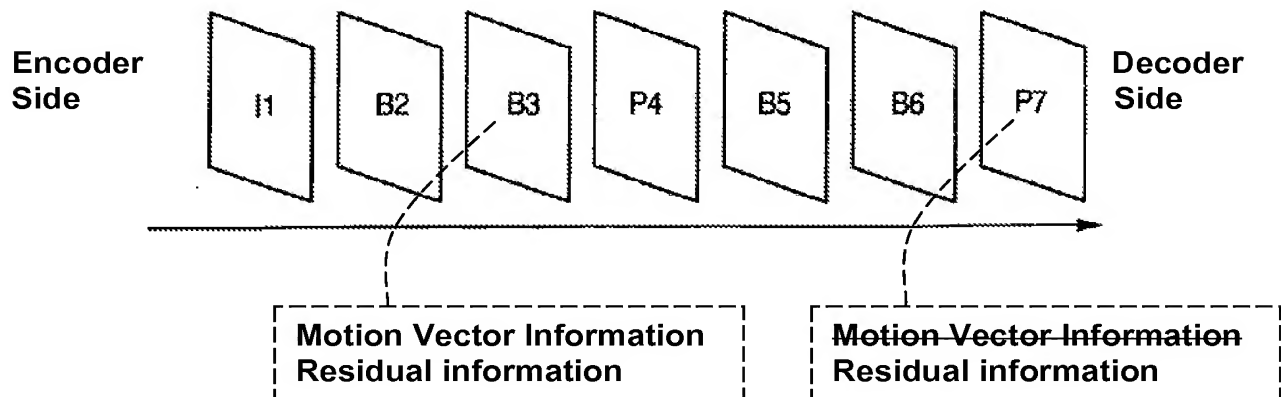
In conducting an encoding operation, each block may be processed at an **encoder** end, e.g., to derive various block information, e.g., a **“motion vector”**, “residual information”, etc.



One can then transmit the block information (e.g., of “I”, “B” and “P” blocks of MPEG4) from encoder side to decoder side (see sketch). That is, each block may be transmitted using a differing mode (Forward Prediction; Backwards Prediction; Bi-Directional Prediction; Direct Mode Prediction)



Respective ones of the transmitted blocks may include “motion vector” information, “residual information”, etc. (see the example **B3** block in sketch below). Blocks transmitted with “**motion vector**” information are **easy to decode** at decoder side **because decoder is given the “motion vector”**.

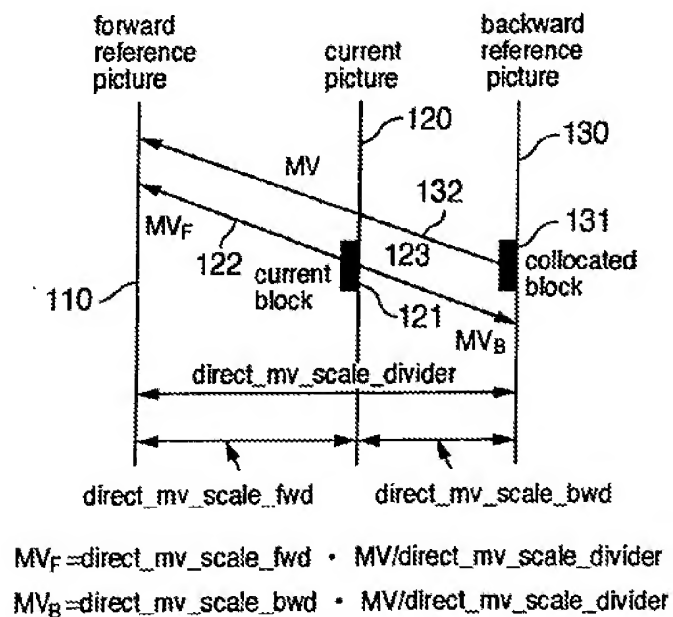


In contrast, other ones of “**motion-vector-less**” (MVL) blocks **do NOT** **include the “motion vector” information** (see the example P7 block in sketch above). These blocks concern “**a prediction mode without motion vector decoding**” (or “**Direct Mode Prediction**” mode, or a “**motion-vector-less prediction mode**”). These MVL blocks are **HARDER to decode** at decoder side **because decoder is NOT given the “motion vector”**.

Applicant’s present invention concerns an approach on **how to decode these MVL blocks on the decoder side**.

As further background, one approach to decode these MVL blocks on the decoder side concerns a **“Conventional Direct Mode” approach**. Such approach uses a motion vector determined for a **“collocated block”** (see Applicant’s FIG. 9 reproduced herewith for convenience) of a **backward reference picture (or frame)**, to interpolate a motion vector for a current MVL block existing within a current picture (or frame). An understanding of most details of such approach is not important regarding the present discussions. However, it is important to realize that the **“collocated block”** (and its motion vector) exists with respect to **a different frame** in comparison to **a “current block” which exists within a “current picture” frame**.

FIG.9

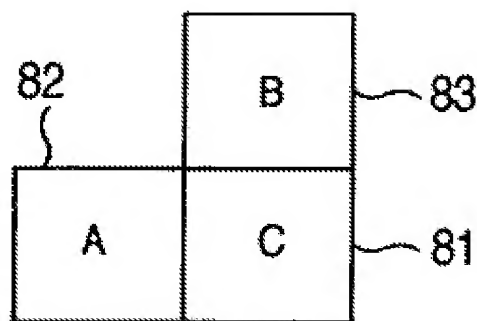


The above **“Conventional Direct Mode” approach** gives good decoding results **MOST OF THE TIME**, but there **are situations where it does not give good results**. Applicant’s invention provides an alternative approach which may be used.

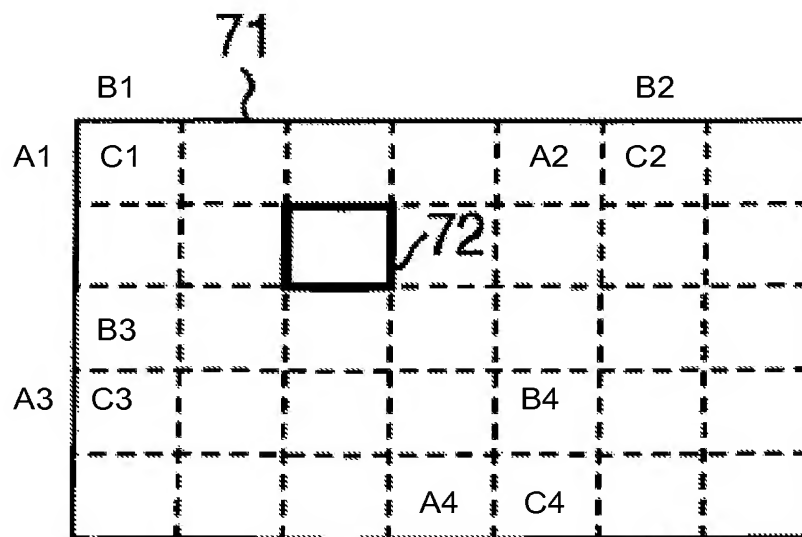
That is, **Applicant’s present invention** concerns another (i.e., differing) **“New Direct Mode” approach**. As one distinguishing feature, Applicant’s present invention looks to **OTHER BLOCKS** from the **SAME PICTURE FRAME** to determine the **“motion vector”** information to be used for decoding of the “motion-vector-less” (MVL) block.

In turning to an example, if a **current** “motion-vector-less” (MVL) block is given as block **C** (see **FIG. 14** portion reproduced below for convenience), one may consider an adjacent left block **A** and an adjacent upper block **B**, and any motion vector information thereof.

**FIG.14**



However, in practice, not all adjacent blocks will have motion vector information. As examples (see sketch below), A1, B1, B2, A3 all might not have motion vector information. As another example, blocks A4 and B4 adjacent to an MVL block C4, might themselves be “motion-vector-less” (MVL) blocks.



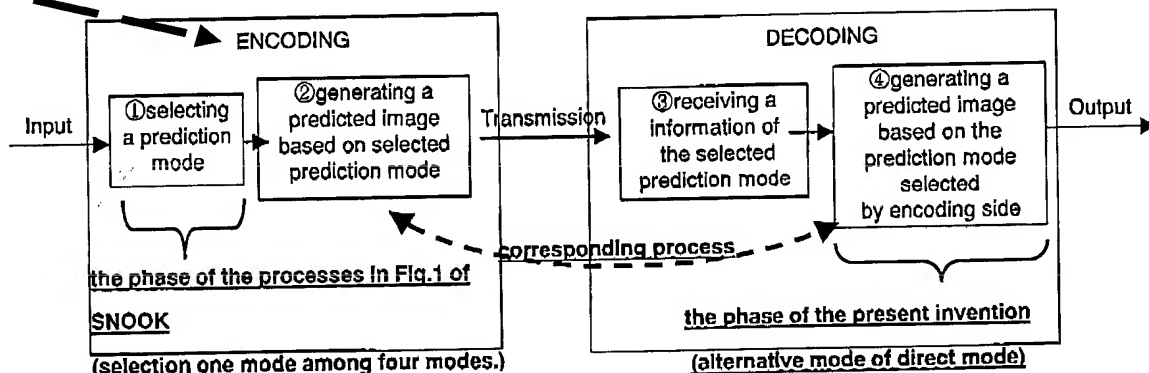
**CURRENT FRAME**

Applicant's disclosed and claimed invention takes whether or not an adjacent block has motion vector information, into consideration in determining a motion vector for a current block.



Regarding distinguishing features/limitations, independent claim 23 (taken as an example), recites: "A moving picture **decoding method** which generates a predicted image using information on motion vectors and information on reference frames, the moving picture decoding method having **a prediction mode without motion vector decoding**, comprising: **in said prediction mode without motion vector decoding**: selecting, from among multiple candidate reference frames, a frame(s) to be referenced to in the prediction mode; and **determining motion vector information to be used** in the prediction mode **based on whether adjacent blocks adjacent to a current block in a current frame, have a motion vector**; and performing moving picture decoding by generating said predicted image using information on said selected reference frame(s) and the motion vector information in said prediction mode."

Turning finally to rebuttal of the previously-applied art, **Snook** only concerns the **ENCODING SIDE**, i.e., how to determine which mode to apply prior to transmission. Snook contains no discussions about decoding, and no discussions about using adjacent blocks.



Regarding any Office Action assertion that processes performed within an **encoding** side are likewise performed (in reverse) within a **decoding** side, **traversal is appropriate**. More particularly, with blocks concerning **“a prediction mode without motion vector decoding”** (or **“Direct Mode Prediction” mode**, or a **“motion-vector-less (MVL) prediction mode”**), the **decoder** side is **NOT given the “motion vector”**. As a result, the decoder side **must guess** at an appropriate motion vector for the MVL block, and hence, **differing processes are applied within the decoder side, which are not applied within the encoder side**.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

#### **EXAMINER INVITED TO TELEPHONE**

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

#### **RESERVATION OF RIGHTS**

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present

application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 500.44249X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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